CLAIMS

1. Automation application programming station designed to be executed in automation equipment, characterised in that it has an internal memory in which it stores at least one grammar file (402) in text format, containing description grammar for automation applications, for at least one of the graphic automation languages (ladder, SFC, FBD) using a single, hierarchised and object oriented language.

2. Programming station according to claim 1, characterised in that the memory also contains a set of one or several description files (401), each description file describing part of the automation application and being expressed in the single, hierarchised and object oriented language.

3. Programming station according to claim 2, characterised in that the single, hierarchised and object oriented language is the XML (eXtended Markup Language) language.

4. Programming station according to claim 2, characterised in that all application description files (401) contain an application program description file, an application input-output description file, and an application data description file.

5. Programming station according to claim 2, characterised in that a grammar file (LD_Source.*) describes an application in Ladder language defining the different elements of the Ladder language as objects, each of these elements containing attributes either in the form of objects, parameters, variables or

texts, and forming information stored in the internal memory of the programming station and that can be represented in the form of a tree structure.

6. Programming station according to claim 5, characterised in that the various elements of the Ladder language include a contact, a horizontal link, a vertical link, a coil, a short circuit, an empty cell, a function block call, an FFB expression, a comparison block and an arithmetical operations block.

7. Programming station according to claim 2, characterised in that a grammar file (SFC_Source.*) describes an application in the SFC language by defining the different elements of the SFC language, namely a step, a transition, a jump, a link between graphs, a comment, as objects, and the graphic coordinates of the different jump, step or transition type elements being defined by a position type object defining the coordinates of the position of the corresponding object in the table of rows and columns on which the graph of the object is displayed on the programming station display means.

8. Programming station according to claim 2, characterised in that a grammar file (FBD_Source.*) describes an application in the FBD language using the different elements of the FBD language as objects.

9. Programming station according to claim 8, characterised in that the different elements in the FBD language include function blocks, text boxes, links between blocks, jump instructions, labels and comments.

10. Programming station according to any one of the previous claims, characterised in that it comprises

an XML handler Hndlr (20) in non-volatile memory, dialoguing through notifications firstly with a tree structure management module (30) representative of the automation application expressed in the single, hierarchised and object oriented language, and also with a plurality of database managers (Mng1, Mng2, …), each manager being specific to part of the automation application stored in one of the databases (Db1, Db2, …).

11. Automation equipment capable of executing an automation application, characterised in that it comprises memory means to store a set of one or several automation application description files (401) expressed in a single, hierarchised and object oriented language, the automation equipment also comprising translation means to convert description files into a binary language that can be executed by the automation equipment.

12. Automation equipment according to claim 11, characterised in that the single, hierarchised and object oriented language is the XML (eXtended Markup Language).

13. Automation equipment according to claim 12 characterised in that the set of application description files contains an application program description file, an application input-output description file, and an application data description file.

14. Automation equipment according to claim 12, characterised in that the description files respect one

of the grammars for translation from one or more graphic automation languages into the XML language.

15. Automation equipment according to claim 14, characterised in that the automation equipment comprises means of checking that the description of the application in the XML language satisfies the description grammar of the graphic automation language used, as a function of which graphic automation language is used.

16. Automation equipment according to claim 14, characterised in that the graphic automation language used includes one or more languages among the Ladder language, the SFC language and the FBD language.